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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,483	10/08/2003	Frederick A. Perner	10014200-1	7466

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER	
DICKEY, THOMAS L	
ART UNIT	PAPER NUMBER
2826	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/681,483

Applicant(s)

PERNER ET AL.

Examiner

Thomas L Dickey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-12 and 21-27 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 08 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/8/03.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of Group I, claims 1-12 and 21-27 in the Paper filed 08/11/2004 is acknowledged.

Oath/Declaration

2. The oath/declaration filed on 10/08/2003 is acceptable.

Drawings

3. The formal drawings filed on 10/08/2003 are acceptable.

Priority

4. Applicants have made no claim for priority.

Information Disclosure Statement

5. The Information Disclosure Statement filed on 10/08/2003 has been considered.

Specification

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

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Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

A. Claims 1-12,21, and 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by GALLAGHER et al.

With regard to claims 1-12 Gallagher et al. discloses a memory with a substrate 80-13 (13 being the insulative portion of the substrate), an array of magnetic memory cells 9 supported on the substrate 80-13, each magnetic memory cell 9 being adapted to store a bit of information; interconnects 12 in communication with the magnetic memory cells 9; and conductors 1,2,3,4,5,6 in communication with the magnetic memory cells 9 and the interconnects 12, the conductors 1,2,3,4,5,6 filling spaces between adjacent magnetic memory cells 9 of the array, wherein at least one of the conductors 1,2,3,4,5,6 is deposited on at least one of the interconnects 12 and at least one other of the conductors 1,2,3,4,5,6 is deposited on at least one of the magnetic memory cells 9, the conductors 1,2,3,4,5,6 comprise top conductors 4,5,6, the memory further comprising bottom conductors 1,2,3 disposed generally orthogonally to the top conductors 4,5,6, each bottom conductor supporting multiple magnetic memory cells 9 of the array, the top conductors 4,5,6 deposited between the bottom conductors 1,2,3 and between

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adjacent magnetic memory cells 9 of the array, wherein the magnetic memory cells 9 each comprise an active layer having a non-fixed magnetization layer 24 and a reference layer 22 having a fixed magnetization, wherein the conductors 1,2,3,4,5,6 filling spaces between adjacent magnetic memory cells 9 of the array are top conductors 4,5,6 disposed between bottom conductors 1,2,3 of the array and between the adjacent magnetic memory cells 9, and wherein each magnetic memory cell 9 comprises a patterned stack; the memory further comprising a dielectric layer 50 disposed on sides of the patterned stack and on sides of the conductors 4,5,6. With regard to claims 21 and 22 Gallagher et al. discloses a memory with means for storing 9 information having logic states, the means for storing 9 comprising a plurality of storage units 8 defining intervening gaps between adjacent storage units 8; and means for sensing 1,2,3,4,5,6 the logic states of the means for storing 9 comprising a plurality of top conductors 4,5,6 and a plurality of bottom conductors 1,2,3 extending generally orthogonally to the plurality of top conductors 4,5,6; wherein the means for sensing 1,2,3,4,5,6 fills the intervening gaps of the means for storing 9. Note figures 1A-1C and column 3 lines 45-67, column 4 lines 5-25, column 5 lines 34-55, and column 6 lines 8 and 9 of Gallagher et al.

The applicant's claim 2 does not distinguish over the Gallagher et al. reference regardless of the process used to form the top conductors, because only the final product is relevant, not the recited process of forming the top conductors by a patterning process that also patterns the magnetic memory cells 9.

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Note that a “product by process” claim is directed to the product per se, no matter how actually made. In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and In re Marosi et al., 218 USPQ 289, all of which make it clear that it is the patentability of the final product per se which must be determined in a “product by process” claim and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or not. Note that applicant has the burden of proof in such cases, as the above caselaw makes clear. See also MPEP 706.03(e).

B. Claims 23-27 are rejected under 35 U.S.C. § 102(b) as being anticipated by POHM (6,147,900).

Pohm discloses a memory structure with magnetic cells 17 deposited on a common first conductive layer 11', the magnetic cells 17 in communication with first vias (no part number, see column 11 lines 5-9) of the memory structure; insulating layers 19 deposited on sides of the magnetic cells 17 and patterned edges of the first conductive layer 11'; and multiple conductors formed from second conductive layers 20,22 deposited over the insulating layers 19 and the magnetic cells 17, the second conductive layers 22 overlying second vias (no part number, see column 8 lines 15-18) of the memory structure and filling gaps (not plan view figure 1A) between adjacent magnetic cells 17, the multiple conductors 20,22 directly contacting the magnetic cells

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17 and directly overlying the second vias. Note figures 1A-1B and column 8 lines 3-34, column 9 lines 1-67, column 10 lines 41-67, and column 11 lines 1-32 of Pohm.


Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L Dickey whose telephone number is 571-272-1913. The examiner can normally be reached on Monday-Thursday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TLD
09/04


Minhloan Tran
Primary Examiner
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